

**REMARKS**

Claims 1-12 remain pending in this application with claim 1 being amended by this response.

**Objection to the Specification**

The disclosure is objected to for certain informalities. The specification has been amended to correct typographical errors and indicate that the reference numeral 3 in the figures identifies the stem. The Examiner is correct in stating the stem 3 is part of the support 4. The aperture identified in the specification is provided in the support 1. Figure 1 has also been amended to clarify the identification of the stem 3 and support 4.

The specification has been further amended to correct a typographical error and clarify that reference numeral 31 identifies the “support body 31”. Support for the amendment is provided on page 8, line 5, which identifies the reference numeral 31 as identifying the body. This amendment further clarifies that the body 31 and stem 44 do not define the same type of structure.

Concerning the Examiner’s questions regarding elements 1, 4, 31 and 45, elements 1 and 4 refer to the first and second supports in a first embodiment and elements 31 and 45 refer to the first and second bodies of the second embodiment. Each of these elements act as a support body. vIt is respectfully submitted that these functions are adequately discussed throughout the specification and no additional description is necessary.

In view of the above remarks and the amendments to the specification and drawings it is respectfully submitted this objection is satisfied and should be withdrawn.

**Objection to the Drawings**

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5). The drawings have been amended in accordance with the comments of the Examiner to include reference numerals 3 and 4. Support for these amendments are provided throughout the specification and specifically on page 6, lines 26-28. Thus, it is respectfully submitted no new matter is added by these amendments. In view of the above remarks and amendments to figure 1, it is respectfully submitted that this objection is satisfied and should be withdrawn.

**Rejection of claims 1-4, 6 and 9 under 35 U.S.C. 102(b)**

Claims 1-4, 6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Grybos et al.

The present claimed invention recites a source-antenna for transmitting/receiving electromagnetic waves. The source-antenna includes, on a support, an array of n independent radiating elements operating in a first frequency band for receiving or transmitting electromagnetic waves and an element with longitudinal radiation situated at the center of the array operating in a second frequency band for transmitting or receiving electromagnetic waves. The second frequency band is situated at the center of the array. The longitudinal radiation element has an axis of radiation and each independent radiating element from the array has its own radiation axis. Each radiation axis is different for each independent radiating element and different from the axis of radiation of the longitudinal radiation element. The array of n radiating elements and the element with longitudinal radiation have a substantially common phase center, the n radiating elements being arranged symmetrically about the longitudinal-radiation element where each radiating element of the array consists of a traveling wave antenna.

Grybos et al. disclose a source antenna for transmitting/receiving EM waves comprising of an array of radiating elements operating in a first frequency band and a

element with longitudinal radiation operating in a second frequency band situated at the center of the array. The axes of the radiating elements coincide with an axis of radiation of the EM waves. The array of radiating elements and the longitudinal element have a common phase center.

Unlike the present claimed invention, Grybos et al. neither disclose nor suggest a system in which “each independent radiating element from said array having its own radiation axis, said radiation axis being different for each independent radiating element and different from the axis of radiation of the longitudinal radiation element”, as in the present claimed invention. In fact, in Grybos et al. all the radiation axes are common.

In view of the above remarks and amendments to the claims it is respectfully submitted that there is no 35 USC 112 compliant enabling disclosure in Schoenberg showing the above discussed features and thus it is respectfully submitted that the present invention as claimed in claim 1 is not anticipated by Grybos et al. As claims 2-4, 6 and 9 are dependant on claim 1, it is respectfully submitted that claims 2-4, 6 and 9 are allowable for the same reasons as discussed above regarding claim 1. Thus, it is further respectfully submitted that this rejection is satisfied and should be withdrawn.

**Rejection of claims 5, 8, 10 and 11 under 35 U.S.C. 103(a)**

Claims 5, 8, 10 and 11 are rejected under 35 U.S.C. 103(a) as being un-patentable over Grybos et al. in view of Spencer.

Spencer discloses a system in which a group of three antennas or radiating elements are coupled to a micro-strip patch or slot radiating element. However, similarly to Grybos et al., Spencer neither discloses nor suggests a system where “each independent radiating element from said array having its own radiation axis, said radiation axis being different for each independent radiating element and different from the axis of radiation of the longitudinal radiation element” as in the present claimed invention.

In view of the above remarks and amendments to claim 1 it is respectfully submitted that Grybos et al. when taken alone or in combination with Spencer does not make the present claimed invention unpatentable. As claims 5, 8, 10 and 11 are dependant on claim 1, it is respectfully submitted that these claims are allowable for the same reasons as discussed above regarding claim 1. Thus, it is further respectfully submitted that this rejection is satisfied and should be withdrawn.

**Rejection of claim 7 under 35 U.S.C. 103(a)**

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Grybos et al.

As discussed above, Grybos et al., neither disclose nor suggest a system where “each independent radiating element from said array having its own radiation axis, said radiation axis being different for each independent radiating element and different from the axis of radiation of the longitudinal radiation element” as in the present claimed invention. Thus, in view of the above remarks, the remarks regarding the rejection of claim 1 and the amendments to claim 1 it is respectfully submitted that Grybos et al. does not make the present claimed invention unpatentable. Thus, it is further respectfully submitted that this rejection is satisfied and should be withdrawn.

**Rejection of claims 1-7 and 9-12 under 35 U.S.C. 103(a)**

Claims 1-7 and 9-12 stand rejected under 35 U.S.C. 103(a) as being un-patentable over Markowitz et al. in view of Carlsson et al.

Markowitz et al. disclose a host spiral antenna comprising of one or more spiral arms to realize a broadband antenna system, i.e. an antenna system having a bandwidth equal to the combined bandwidths of the host and complimentary antennas. However, Markowitz et al. neither disclose nor suggest a “Source-antenna located on a support for

transmitting/receiving electromagnetic waves comprising an array of  $n$  independent radiating elements operating in a first frequency band for receiving or transmitting electromagnetic waves, and an element with longitudinal radiation operating in a second frequency band for transmitting or receiving electromagnetic waves” as cited in claim 1 of the present claimed invention.

Carlsson et al. disclose an energy supply arrangement for feeding microwave energy from a microwave source to the oven cavity of a microwave oven. The system uses a conductor as a micro-strip line with a transmission line a small distance away. The conductor of Carlsson et al. is in the shape of a spiral conductor disposed about a central energy feed point. Carlsson et al.’s magnetron relates to a microwave oven which has no relation to an antenna system as in the present claimed invention. Furthermore, the spiral-shaped wires implemented in Carlsson et al. are only used for feeding as seen in column 1, line 59, “provided with a feeding system which consists of a transmission line in the form of a flat wire or strip conductor configuration.” It is thus respectfully submitted that the combination of Carlsson et al. with Markowitz et al. is improper as these inventions are concerned with totally unrelated systems and technology. Even should it be proper to combine these references, similarly to Markowitz et al., Carlsson et al. neither disclose nor suggest a “Source-antenna for transmitting/receiving electromagnetic waves” as in claim 1 of the present invention.

In view of the above remarks and amendments to claim 1 it is respectfully submitted that Markowitz et al. when taken alone or in combination with Carlsson et al. does not make the present claimed invention unpatentable. As claims 2-7 and 9-12 are dependant on claim 1, it is respectfully submitted that these claims are allowable for the same reasons as discussed above regarding claim 1. Thus, it is further respectfully submitted that this rejection is satisfied and should be withdrawn.

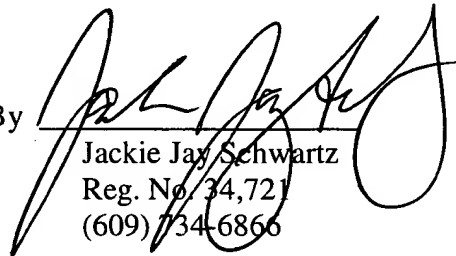
Having fully addressed the Examiner’s rejections, it is believed that, in view of the preceding amendments and remarks, this application stands in condition for allowance. Accordingly then, reconsideration and allowance are respectfully solicited. If, however,

the Examiner is of the opinion that such action cannot be taken, the Examiner is invited to contact the applicant's attorney at the phone number below, so that a mutually convenient date and time for a telephonic interview may be scheduled.

No fee is believed due. However, if a fee is due, please charge the fee to Deposit Account 07-0832.

Respectfully submitted,  
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In the Drawings

Please amend the figure 1 as shown on the attached sheet.